



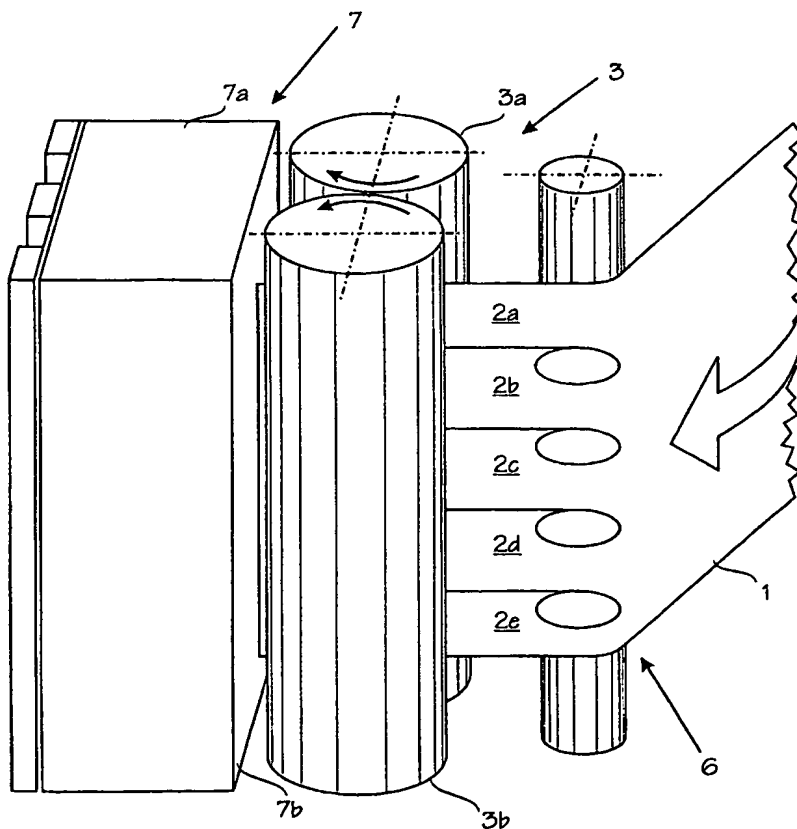
## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification <sup>6</sup> : <b>B65H 35/02, 45/28, 37/04</b>		A1	(11) International Publication Number: <b>WO 99/35073</b>
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(30) Priority Data:		Published With international search report.	
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982230	14 October 1998 (14.10.98)	FI	
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(54) Title: METHOD OF PACKAGING A WEB, AND A PACKAGE PRODUCED THEREBY

## (57) Abstract

The invention relates to a method and package for packaging a web. In the method of the invention, a web (1) is slit into two or more narrower webs (2a to 2e) which are folded into superimposed layers (4). The method comprises the steps of directing the webs (2a to 2e) to a nip formed by two rotating reels (3a, 3b) and by inducing the webs, held alternately against the surfaces of the first (3a) and the second (3b) reel, to move with the reel the length of a predetermined rotational angle to provide folding, and joining the ends of the webs (2a to 2e) together so that the webs form a continuous whole whose length corresponds to the combined length of the webs.



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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 98/01022

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
IPC6: B65H 35/02, B65H 45/28, B65H 37/04 According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
Minimum documentation searched (classification system followed by classification symbols)		
IPC6: B65H		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
SE,DK,FI,NO classes as above		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
EPODOC, WPI		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 1489833 A (G.M. KELLER), 8 April 1924 (08.04.24), page 7, column 2, line 108 - page 8, line 31 --	1-3,5-11
Y	EP 0274737 A2 (JOS. HUNKELER AG FABRIK FÜR GRAPHISCHE MASCHINEN), 20 July 1988 (20.07.88), figure 1, abstract --	1-3,5-11
Y	EP 0383501 A2 (ALMEX CONTROL SYSTEMS LIMITED), 22 August 1990 (22.08.90), figures --	10,11
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "I" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search		Date of mailing of the international search report
30 March 1999		06 -04- 1999
Name and mailing address of the ISA/ Swedish Patent Office Box 5055, S-102 42 STOCKHOLM Facsimile No. +46 8 666 02 86		Authorized officer  Christer Falk Telephone No. +46 8 782 25 00

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 98/01022

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5205808 A (T.D. GEBHARDT), 27 April 1993 (27.04.93), figures 1-5, details 90,92,96A,100A, 102,104,106  --	1-11
A	GB 2193734 A (ORBIT WEAVING MACHINERY LIMITED), 17 February 1988 (17.02.88), abstract  --	1-11
A	US 4467589 A (J.D. VAN MAANEN), 28 August 1984 (28.08.84), abstract  --	1-11
A	GB 2028774 A (PAPER CONVERTING MACHINE COMPANY), 12 March 1980 (12.03.80), figure, abstract  --	1-11
A	US 5290226 A (R.L. GREEN, JR.), 1 March 1994 (01.03.94), abstract  --	1-11
A	US 4715925 A (W. HOFMEISTER ET AL), 29 December 1987 (29.12.87)  -- -----	

## INTERNATIONAL SEARCH REPORT

Information on patent family members

02/03/99

International application No.

PCT/FI 98/01022

Patent document cited in search report			Publication date	Patent family member(s)	Publication date
US	1489833	A	08/04/24	NONE	
EP	0274737	A2	20/07/88	DE 3700402 C JP 63176257 A	07/07/88 20/07/88
EP	0383501	A2	22/08/90	GB 2227994 A,B US 5036977 A	15/08/90 06/08/91
US	5205808	A	27/04/93	NONE	
GB	2193734	A	17/02/88	NONE	
US	4467589	A	28/08/84	EP 0061788 A,B NL 8101588 A	06/10/82 18/10/82
GB	2028774	A	12/03/80	AT 372905 B AT 476279 A AU 513029 B AU 4930279 A BE 878209 A BR 7905262 A CA 1114411 A DE 2927084 A,C FR 2434101 A JP 55028891 A SE 7906881 A	25/11/83 15/04/83 06/11/80 26/06/80 03/12/79 06/05/80 15/12/81 20/03/80 21/03/80 29/02/80 22/02/80
US	5290226	A	01/03/94	NONE	
US	4715925	A	29/12/87	AT 41641 T DE 3604870 A,C EP 0234349 A,B	15/04/89 20/08/87 02/09/87

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2980458PC/su	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/FI98/01022	International filing date (day/month/year) 23.12.1998	Priority date (day/month/year) 02.01.1998
International Patent Classification (IPC) or national classification and IPC <sub>7</sub> B65H 35/02, B65H 45/28, B65H 37/04		
Applicant Walkisoft Finland Oy et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
- ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand  28.05.1999	Date of completion of this report  14.02.2000
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. 08-667 72 88	Authorized officer  Christer Falk / MR Telephone No. 08-782 25 00

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/FI98/01022

## I. Basis of the report

1. This report has been drawn on the basis of *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*:

- ☒ the international application as originally filed.
- ☐ the description, pages \_\_\_\_\_, as originally filed,  
pages \_\_\_\_\_, filed with the demand,  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☐ the claims, Nos. \_\_\_\_\_, as originally filed,  
Nos. \_\_\_\_\_, as amended under Article 19,  
Nos. \_\_\_\_\_, filed with the demand,  
Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☐ the drawings, sheets/fig \_\_\_\_\_, as originally filed,  
sheets/fig \_\_\_\_\_, filed with the demand  
sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the supplemental Box (Rule 70.2(c)).

4. Additional observations, if necessary:

International application No.

PCT/FI98/01022

**V. Resoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

### 1. Statement

Novelty (N)	Claims	<u>1-5, 8</u>	YES
	Claims	<u>6-7, 9-11</u>	NO
Inventive step (IS)	Claims		YES
	Claims	<u>1-5, 8</u>	NO
Industrial applicability (IA)	Claims	<u>1-11</u>	YES
	Claims		NO

## 2. Citations and explanations

**Cited documents:**

(D1) : US 1489833 A  
(D2) : EP 0383501 A2

The claimed invention relates to a method of packaging a web and a package produced by the method. The object of the invention is to avoid the problems relating to the use of round web reels in preparing machines.

The solution according to the invention is a method of packaging a web and a package produced by the method, where the web is slit into two or more narrower webs. These narrower webs are folded into superimposed layers via a nip formed by two rotating reels through which the webs are directed. The webs are held against the surfaces of the two reels and are induced to alternately move a length of a predetermined rotational angle with each reel to provide the folding. The ends of the webs are thereafter joined together to form a continuous length which corresponds to the combined length of the webs.

Document (D1) discloses a method of packaging a web (W) according to the preamble of claim 1, where the slit webs (w1, w2) are directed to a nip formed by two rotating reels (F, G). The webs (w1, w2) are held against the surfaces of the two reels (F, G) by mechanical means (figure 6, details 37, 44). They are induced to alternately move a length of a predetermined rotational angle with each reel to provide the folding (page 4, column 2, line 94- line 4, page 5, column 1).

...../.....



INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/FI98/01022

**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: V.

The subject matter claimed in claim 1 differs from the method of packaging a web described in document (D1) in the respect that the ends of the webs thereafter are joined together to form a continuous length, which corresponds to the combined length of the webs.

Document (D2) however reveals a web supply system comprising packages with side-by-side stacks (figure 3, details 12a, 12b) of superimposed web layers formed by folding a web (13). The ends of the webs (13) are joined together by joining the tail end (19) of one web to the forward end (19a) of the adjacent web to form a continuous length, which corresponds to the combined length of the webs (column 2, line 36- line 4, column 3). The ends (19, 19a) of the webs are joined together by an adhesive (20). The stacks of superimposed folded web material have solid outer casings in form of rectangular box-like cassettes (12a, 12b) and the forward and tail ends of the joined continuous web are disposed outside the cassette (12).

It seems obvious to a person skilled in the art to combine the method of packaging a web according to (D1) with the web supply system according to document (D2) and so obtain the invention claimed in claims 1-2, 4-5.

According to the arguments stated above, the invention claimed in claims 6-7, 9-11 is not novel.

Claims 3 and 8 show in light of the documents mentioned above, nothing that is not already known.

According to the arguments stated above, the invention claimed in claims 6-7, 9-11 is not novel, is not considered to involve an inventive step but is considered to have industrial applicability. The invention claimed in claims 1-5, 8 is considered novel and to have industrial applicability, but is not considered to involve an inventive step.

# PATENT COOPERATION TREATY

EO/US  
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## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents  
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in its capacity as elected Office

Date of mailing:

21 October 1999 (21.10.99)

International application No.:

PCT/FI98/01022

Applicant's or agent's file reference:

2980458PC/su

International filing date:

23 December 1998 (23.12.98)

Priority date:

02 January 1998 (02.01.98)

Applicant:

HYVÄRINEN, Paavo et al

1. The designated Office is hereby notified of its election made:



in the demand filed with the International preliminary Examining Authority on:

28 May 1999 (28.05.99)



in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was



was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO  
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Authorized officer:

J. Zahra

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